CLAIMS

Now, therefore, the following is claimed:

1. An anomaly detection system, comprising:

an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and

anomaly detection logic configured to determine a difference between a new tap coefficient associated with one of the taps and a previous tap coefficient associated with the one tap, the anomaly detection logic configured to perform a comparison between the difference and a threshold and to detect an anomaly along a telecommunication line based on the comparison.

2. The system of claim 1, wherein the anomaly detection logic is configured to maintain a histogram of anomaly indications based on comparisons of associated tap coefficients.

3. The system of claim 1, wherein the anomaly detection logic is configured to maintain a running sum of a total number of anomaly indications detected by the anomaly detection logic based on comparisons between tap coefficients associated with the one tap.

4. The system of claim 3, wherein the anomaly detection logic is configured to compare the running sum to a threshold.

5.   The system of claim 1, wherein the anomaly detection logic is configured to perform a second comparison between a threshold and a value indicative of an error rate associated with the telecommunication line, the anomaly detection logic further configured to detect the anomaly based on the second comparison.

6.   The system of claim 5, wherein the value represents a minimum signal-to-noise ratio detected during a particular time period prior to the second comparison.

7.   An anomaly detection system, comprising: √

an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and

anomaly detection logic configured to determine when at least one of the tap coefficients fluctuates by at least a specified amount and to detect an anomaly along a telecommunication line based on a detection, by the logic, that the at least one tap coefficient fluctuated by at least the specified amount.

8.   The system of claim 7, wherein the anomaly detection logic is further configured to maintain a running sum indicative of a number of times that the logic detects the at least one tap fluctuating by at least the specified amount, wherein the anomaly detection logic is configured to detect the anomaly based on the running sum.

9.   The system of claim 8, wherein the anomaly detection logic is further configured to compare the running sum to a threshold.

10. An anomaly detection system, comprising:

an echo canceler having a plurality of taps respectively associated with a plurality of tap coefficients; and

anomaly detection logic configured to establish a set of baseline tap coefficients based on the tap coefficients, the anomaly detection logic configured to compute differences between new tap coefficients of the echo canceler and the baseline tap coefficients and to detect an anomaly along a telecommunication line based on the differences.

11. The system of claim 10, wherein the anomaly detection logic is configured to periodically update the baseline tap coefficients.

12. The system of claim 10, wherein the anomaly detection logic is configured to perform comparisons between the differences and a plurality of thresholds, each of the comparisons comparing a respective one of the differences and a respective one of the thresholds, wherein the anomaly detection logic is configured to detect the anomaly based on the comparisons.

13. The system of claim 12, wherein the anomaly detection logic is configured to update at least one of the baseline tap coefficients in response to one of the comparisons.

14. The system of claim 12, wherein the anomaly detection logic is configured to maintain a histogram of the results of the comparisons.

15.   An anomaly detection method, comprising the steps of: 4

determining a difference between a new tap coefficient associated with a tap of an echo canceler and a previous tap coefficient associated with the tap;

comparing the difference to a threshold; and

detecting an anomaly along a telecommunication line based on the comparing step.

16.   An anomaly detection method, comprising the steps of: 5

monitoring a plurality of tap coefficients of an echo canceler;

determining when at least one of the tap coefficients fluctuates by at least a specified amount; and

detecting an anomaly along a telecommunication line based on the determining step.

17.   The method of claim 16, further comprising the step of maintaining a running sum indicating a number of times that the at least one tap coefficient fluctuates by at least the specified amount, wherein the detecting is further based on the running sum.

18.   The method of claim 17, wherein the detecting step comprises the step of comparing the running sum to a threshold.

19. An anomaly detection method, comprising the steps of:

establishing a set of baseline tap coefficients based on a set of tap coefficients of an echo canceler;

computing differences between the baseline tap coefficients and new tap coefficients of the echo canceler; and

detecting an anomaly along a telecommunication line based on the differences.

20. The method of claim 19, further comprising the step of periodically updating the baseline tap coefficients.

21. The method of claim 19, further comprising the step of comparing the differences to a plurality of thresholds, wherein the detecting step is further based on the comparing step.

22. The method of claim 21, further comprising the step of updating at least one of the baseline tap coefficients in response to a comparison between one of the differences and one of the thresholds.

23. The method of claim 21, further comprising the step of maintaining a histogram of the results of the comparing step, wherein said detecting step is further based on the histogram.